

REMARKS/ARGUMENTS

Claims 1, 8, 15 and 22 have been amended. Claim 2 has been amended to correct an error.

35 U.S.C. § 102(b) Rejections

Examiner rejected claims 1-28 under 35 U.S.C. § 102(b) as being anticipated by "Enhanced Code Compression for Embedded RISC Processors" (hereinafter "Cooper").

Cooper initially describes a technique for implementing code compression in a compiler by using pattern matching techniques to identify identical code sequences known as a "repeat" (See p. 139, col. R:20-21). Such techniques then allow for the compiler to eliminate redundant code sequences while using "procedural abstraction or cross-jumping to channel execution of the repeat through a single copy of the code" (See p. 139 col. R:21-23).

Cooper further describes an enhancement to this code compression technique where similar sets of instructions can be rendered identical by the reallocation of the registers on which the instructions operate (See p. 142 col. L:44 - col. R:4). The instructions can then be reduced by the previously described compression scheme. Cooper then describes a procedure for identifying the repeats by "creating a linear, string-like representation of the program called the text, where each character in the string corresponds to a particular instruction in the program" (See p. 140 col. R:12-15).

In contrast, amended claims 1, 8, and 15 require "constructing a dependence graph of said plurality of executable instructions" rather than a

"linear string-like representation of the program". Amended claim 22 similarly requires "a processor... to construct a dependence graph of said plurality of executable instructions".

Amended claims 1, 8, and 15 further require "using said dependence graph to identify at least one unifiable instruction of said plurality of executable instructions, within said plurality of fork subgraph structures". Amended claim 22 similarly requires "a processor... to use said dependence graph to identify at least one unifiable instruction of said plurality of executable instructions, within said plurality of fork subgraph structures".

To establish lack of novelty under 35 U.S.C. § 102(e), the prior art reference must teach all limitations of the claim at issue. By this standard, amended claims 1, 8, 15, and 22 are allowable over Cooper because Cooper fails to teach all limitations of these claims.

Cooper does not anticipate amended claims 1, 8, 15, and 22 of the present invention because Cooper does not teach "constructing a dependence graph of said plurality of executable instructions". Cooper teaches a procedure for identifying repeats in a program by "creating a linear, string-like representation of the program called the text, where each character in the string corresponds to a particular instruction in the program" (See p. 140 col. R:12-15) and then constructing a suffix tree (See p. 140 col. R:18-19). This procedure for identifying repeats is distinguishable from that of the present invention because such a text, as described by Cooper, is based on the linear sequence of the instructions, rather than their dependencies. Cooper teaches only the construction of a suffix tree, and does not suggest "constructing a dependence graph". Thus, Cooper fails to anticipate the construction of a dependence graph as required by amended claims 1, 8, 15, and 22. Having failed to suggest "constructing a dependence

graph", Cooper further fails to teach "using said dependence graph to identify at least one unifiable instruction" as required by claims 1, 8, 15, and 22. Since Cooper does not teach or suggest all limitations of claims 1, 8, 15, and 22, claims 1, 8, 15, and 22 are allowable over Cooper in accord with 35 U.S.C. § 102(e).

Claims 2-7 add further limitations to allowable amended claim 1, claims 9-14 add further limitations to allowable amended claim 8, claims 16-21 add further limitations to allowable amended claim 15, and claims 23-28 add further limitations to allowable amended claim 22. Claims 2-7, 9-14, 16-21, and 23-28 are therefore allowable over the cited prior art.

CONCLUSION

Applicant respectfully submits the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Adam Furst at (408) 947-8200.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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